

ANNOTATIONES ZOOLOGICAE JAPONENSES

Volume 47, No. 2—June 1974

Published by the Zoological Society of Japan

A New Species of the Genus *Phauloppia* (Acari,
Oribatulidae) Collected from Bead-Trees

With 10 Text-figures

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ABSTRACT A new arboreal oribatid mite, *Phauloppia adjecta*, was found in colonies on bark of bead-trees in the area of Tsu, Central Japan. The new species is distinguishable from the known congeners by the presence of 5 pairs of areae porosae and long flagelliform notogastral setae h_1 and h_3 .

In February of 1963, colonies of dark reddish brown mites were often found on bark of bead-trees, *Melia azedarach*, growing in Tsu City of Central Japan. Each colony consisted of more than thirty individuals of an unknown species of the genus *Phauloppia*, which crowded in a crack of the bark. A close examination of this species revealed it to be a new species, which is described below.

Phauloppia adjecta spec. nov.

Colour and Integument. Dark reddish brown. Body surface appears to be almost smooth, but close examination reveals that low granules cover the notogaster and obscure small depressions exist on the ventral plate.

Prodorsum. Rostrum rounded anteriorly. Prodorsal setae long and distinctly barbed; the comparative length of *ro*, *le* and *in*: 1: 1.5: 2.5–3; *in* as well as *le* distinctly thicker than *ro*; *in* with a long flagelliform tip, while *le* terminates in a rather blunt tip; *ro* shows an intermediate condition between the setae above-mentioned and bears a short flagelliform tip. Lamellar ridge nearly straight, being shorter than the mutual distance of lamellar setae. Insertion pore for *in* and bothridium connected by a short, sigmoid ridge. Exobothridial setae are fine bristles with barbation, being 1/3 as long as *ro*. Head of sensillus spherical, with granular surface

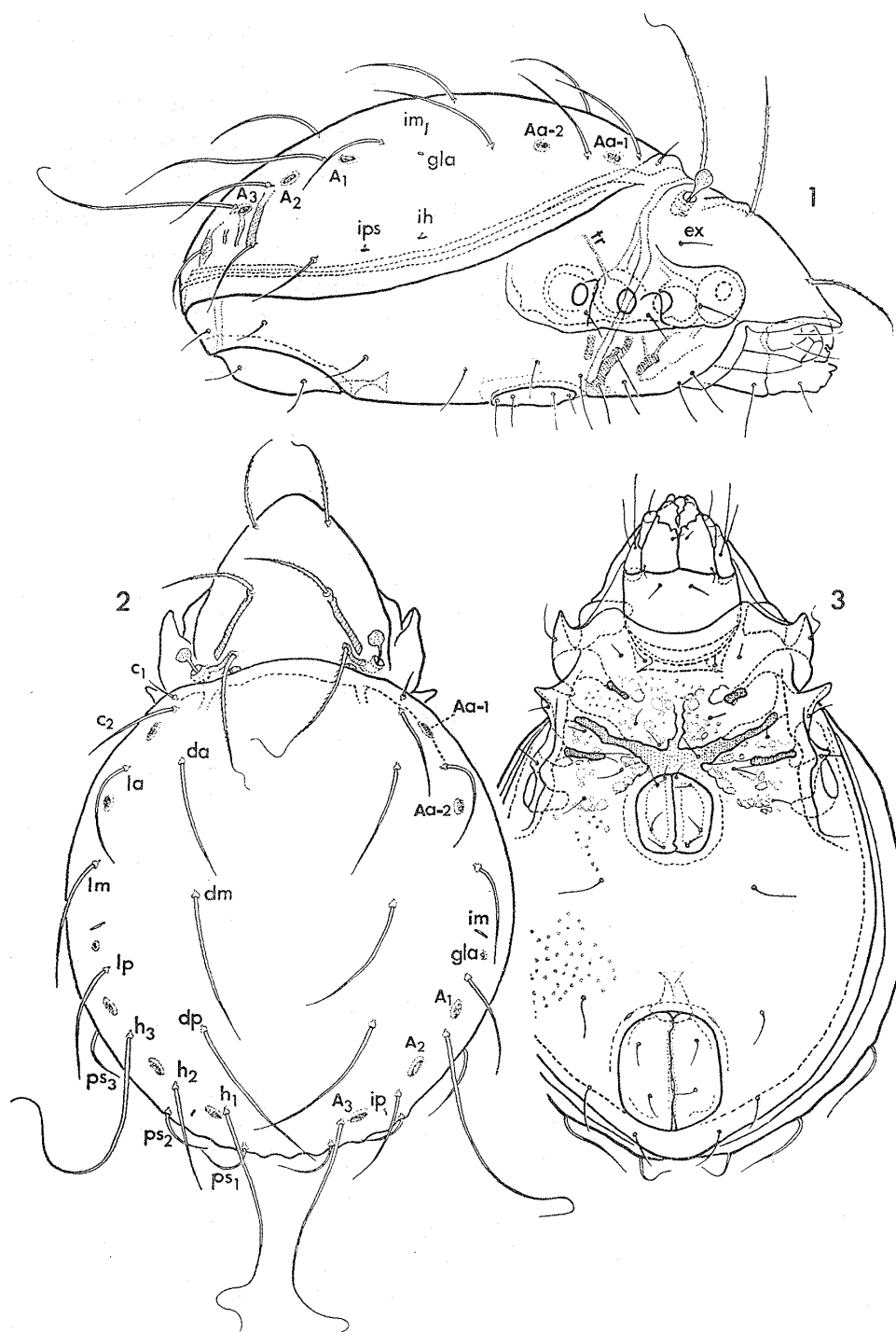
structure. A pair of areae porosae (Aj) located behind the insertion pores of inter lamellar setae.

Notogaster. Anterior border of notogaster slightly convex; posterior border uneven because of the presence of many vertical ridges as shown in Fig. 5. A number of light spots arranged along lateral margins. The remaining surface of notogaster not completely smooth, but densely covered with low granules. Fourteen pairs of notogastral setae almost smooth, only slightly roughened, varying in shape and length; setae h_1 and h_3 conspicuously long, each having a long flagelliform tip; humeral setae c_1 the shortest; the remaining setae nearly similar in length to one another, though the setae of the dorsal series are somewhat longer than those of the lateral series; c_1 and c_2 situated close together; ps_1 , ps_2 , ps_3 and h_1 inserted on chitinous "posteromarginal ridges" (Fig. 5). There are more such ridges without seta: 4-5 between paired setae ps_1 , 2 between ps_1 and ps_2 , as well as between ps_2 and ps_3 . Five pairs of areae porosae present; 2 pairs of *Aa* called here tentatively *Aa*-1 and *Aa*-2; all the areae porosae elongate in shape except for rounded *Aa*-2 (Fig. 8). *Aa*-1, *Aa*-2, A_1 and A_2 situated at about mid-distance between c_2 - la , la - lm , lp - h_3 and h_3 - h_2 , respectively; A_3 situated just behind h_1 . Lyrifissure *im* long, situated between lm and lp ; *ip* long, situated above the line ps_1 - ps_2 ; *ips* and *ih* short, situated anteriorly of ps_3 ; *im* as well as *ip* aligned obliquely; *ips* and *ih* parallel to the notogastral margin.

Anogenital region. The number of pairs of *g*, *ag*, *an* and *ad*: 4, 1, 2, 3; *ag* and *ad* half as long as genital plate, about $1.5 \times$ longer than *g* or *an*. Genital aperture nearly pentagonal, as long as wide, a little narrower posteriorly. Anal aperture a little longer than wide, rounded hexagonal in dorsal view, lateral sides being parallel to each other. In lateral view, the plate considerably convex in the middle part. Ratio in length of anal aperture to genital one: 1.5. Interspace between the two apertures twice longer than the length of genital aperture, being as long as the mutual distance of *ag* or that of ad_3 . Adanal fissures aligned obliquely and situated close to anal margin (in a single specimen examined the left fissure was exceptionally far apart from anal margin). Ventral plate with obscure sculpture of small circular depressions.

Epimeral region. Three pairs of apodemata; *apo.* 2 short; *apo.* *sj.* well developed to meet medially and to surround anterior part of genital aperture, being sometimes connected with sternal ridge; *apo.* 3 about twice as long as *apo.* 2, being aligned almost transversely. Sternal ridge weakly chitinized, anteriorly not reaching the posterior margin of hypostome. Setal formula of epimerata: 3-1-3-3. Epimeral setae as long as genital ones. Setae 1c, 3c and 4c located on *pd.* 1, *pd.* 2 and discidium, respectively. Mutual distance of 1a as well as 2a wide.

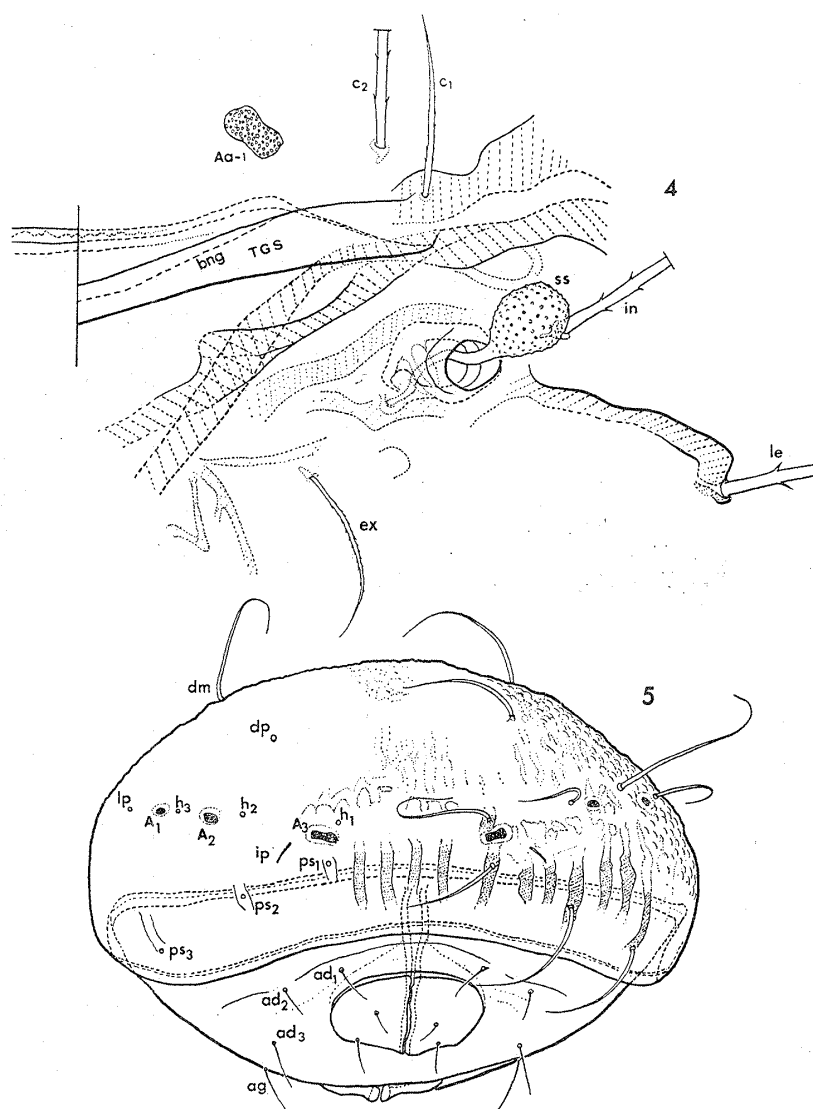
Mouth parts. Chelicera densely covered by small pits. Seta *cha* situated dorsally; *chb* inserted antiaxially near digital hinge (Fig. 7); both the setae finely barbed. Pedipalp five-segmented; setal formula: 0-2-1-3-9. Palpal tarsus bearing 4 terminal eupathidal and 5 normal setae; palpal femur with irregular



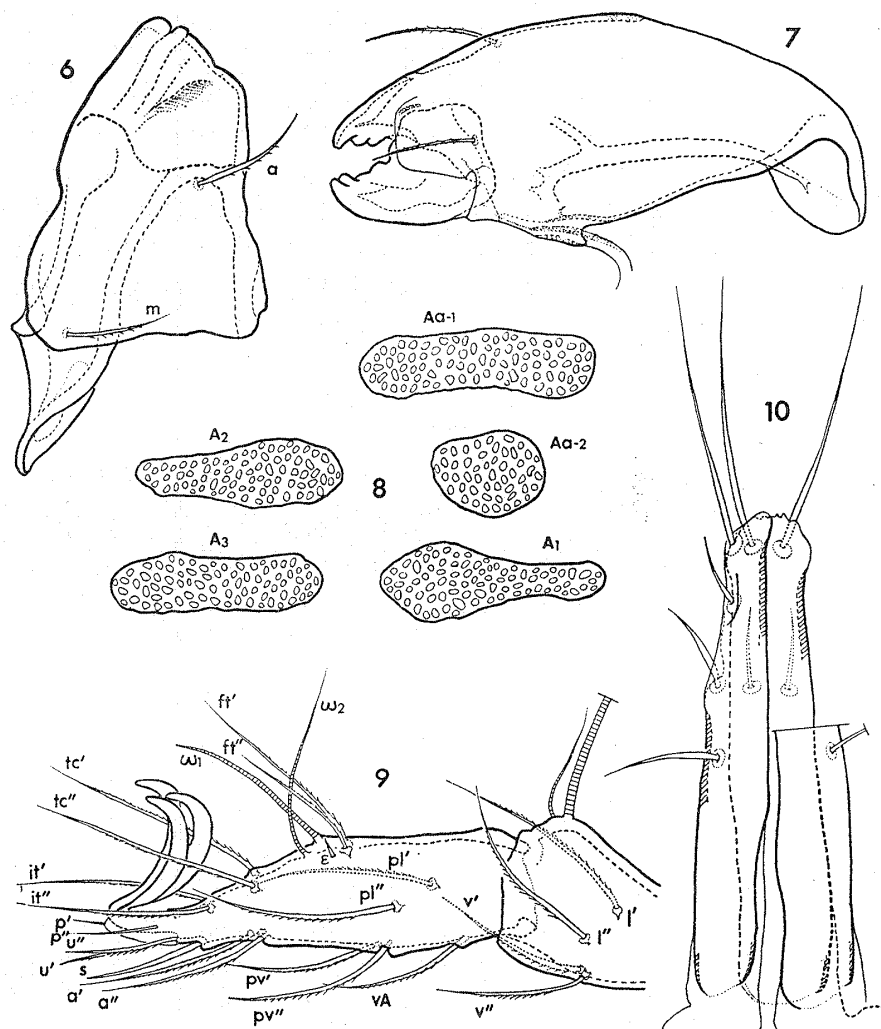
Figs. 1-3. *Phauloppia adjecta* spec. nov. — 1. Lateral side. — 2. Dorsal side. — 3. Ventral side.

transverse wrinkles. Hystero stomal seta (*h*) and genal setae (*a* and *m*) sparsely barbed; *a* thicker than *m* as well as *h*.

Legs. Relative length of leg segments: $TaII \doteq TaI < TaIII \doteq TaIV$, $TiII < TiI < TiIII < TiIV$, $GeIII \doteq GeIV < GeII \doteq GeI$, $FeIII < FeIV \doteq FeII \doteq FeI$. Chaetotaxy of legs: I (1-4-2-4-19); II (1-4-2-4-15); III (1-3-1-3-15); IV (1-2-2-3-12). Solenidiotaxy: I (1-2-2); II (1-1-2); III (1-1-0); IV (0-1-0). On tarsus I: ω_1 rather blunt at tip; ω_2 sharply pointed, being located anterolateral to ω_1 and crossing the latter. All the setae, excepting ω , ϵ , p and s , distinctly barbed (ultimate setae *u* also barbed!); an unpaired seta *vA* found behind paired setae *pv*. All the



Figs. 4-5 *Phauloppia adjecta* spec. nov. — 4. Lateral view of sejugal region, showing bothridium, sensillus, lamellar ridge and some setae in their vicinity (right side). — 5. Posterior view of body.



Figs. 6-10. *Phauloppia adjecta* spec. nov. — 6. Rutellum and gena (right side). — 7. Chelicera (antiaxial side of left chelicera). — 8. Five areae porosae. — 9. Tarsus I (antiaxial side). — 10. Ovipositor.

tarsi homotridactylous.

Measurements. Body length: 640 (740) 810 μ ; width: 460 (500) 550 μ .

Material examined. Holotype (NSMT-Ac 8371 in spirit): Kamihama-chô, Tsu-shi, Mie-ken, 23-II-1973, N. Ohkubo. From the bark of bead-tree (*Melia azadarach*). — Paratopotypes (49 exs. in spirit and 12 exs. on slides): The same data as holotype. The type-series is deposited in the collection of the National Science Musium (Nat. Hist), Tokyo.

Remarks. The most peculiar feature of the present new species is the presence of 5 pairs of areae porosae. All the known species of the genus *Phauloppia* were described as having 4 pairs of the organs. Only the exception is Balogh and Csiszár's

(1963) figure (p. 478, fig. 33) of *Ph. topali*, in which the right *Aa* was divided into 2 parts, so that it has 5 areae porosae on the right side of the body. This feature should not be overlooked. If such a tendency exists in the genus *Phauloppia*, the presence of 5 pairs of areae porosae in the present new species cannot be considered important enough for establishment of a new genus for it. Notogastral setae h_1 and h_3 , distinctly longer than the remainder, distinguishing *Ph. adjecta* from the other species, because in the latter, the notogastral setae are of almost equal length, if they are long or not. Posteromarginal ridges on notogaster are peculiar to *Ph. adjecta* and perhaps also to *Ph. coineau* Travé, 1961.

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